# UNITED STATES PATENT AND TRADEMARK OFFICE

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| 10/051,548 | 01/16/2002 | Sridevi Sarma | F00526/70003 (GSE/IMH) | 9642 |

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|---|
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| ART UNIT | PAPER NUMBER |
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| 2129 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
| --- | --- | --- |
| **Office Action Summary** | 10/051,548 | SARMA ET AL. |
| | Examiner | Art Unit | |
| | Peter Coughlan | 2129 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on *10 October 2007*.

2a)☐ This action is **FINAL**.  2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) *137,138,143-155 and 158-160* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *137,138,143-155 and 158-160* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/16/2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All  b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

| Attachment(s) | |
| --- | --- |
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ . | 6) ☐ Other: _____ . |

# Detailed Action

1.      This office action is in response to an AMENDMENT entered October 10, 2007

for the patent application 10/051548 filed on January 16, 2002.

2.      All previous Office Actions are fully incorporated into this Non-Final Office Action

by reference.

### *Status of Claims*

3.      Claims 137-138, 143-155, 158-160 are pending.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4.      Claims 137 and 158 are rejected under 35 U.S.C. 112, first paragraph, as failing

to comply with the written description requirement.  The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention. These claims state 'revenue' is indicated by the association between the 'customer data' and the 'product data'. This is not supported by the specification. The word 'revenue' is not mentioned within the specification.

These claims must be amended or withdrawn from consideration.


Claim137 and 158 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims state there are 'association values' based on the 'first data set' and the 'second data set.' This is not disclosed within the specification.

These claims must be amended or withdrawn from consideration.


Claims 137 and 158 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for 'data sets', does not reasonably provide enablement for 'modify a segmentation of each of the first and second data sets.' The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to 'modify a segmentation of each of the first and second data sets' the invention commensurate in scope with these claims. This is only mentioned in ¶0241 without any description how this is accomplished.

These claims must be amended or withdrawn from consideration.

## 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 137-138, 143-155, 158-160 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application. The generation of 'association values' based on customer data sets and product data sets has no practical application The result has to be a practical application. Additionally, the specification discloses preemption based on ¶0179 wherein the specification states, 'There exists numerous marketing applications by a SAM. (Single Association Model)

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." If the claim is directed to a practical application of the § 101

judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101. There is no purpose for the 'association value' result. The 'association value represents the 'strength or adequacy' between the two data sets but there use for this arbitrary value. The specification also states numerous marketing applications based on the original object sets such as 'targeting/personalization', 'policy/promotion design', 'policy/promotion response analysis', 'design of new products and or product bundles', and 'design of new product hierarchies.'

The invention must be for a practical application and either:

1) specify transforming (physical thing) or

2) have the FINAL RESULT (not the steps) achieve or produce a

useful (specific, substantial, AND credible),

concrete (substantially repeatable/ non-unpredictable), AND

tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended.

Claims that recites computer pseudo code that represents a relationship between customers and products are not statutory. The applicant's argument and specification state the domain of the invention of an abstract nature due to the fact it has 'numerous applications.' There must be a result that is a practical application. There must be one invention per application.

## *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

Claims 137-138, 143-155, 158-160 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Passera et al in view of Cragun et al. (U. S. Patent 5909681, referred

to as **Passera**; U. S. Patent 5971277, referred to as **Cragun**)

Claim 137

Passera teaches (A) one or more input devices for inputting the first and second

data sets (**Passera,** C1:22-61; 'Input devices' of applicant is equivalent to 'input nodes'

of Passera.) and association values representing an association between one or more

elements of the first data set and one or more elements of the second data set

(**Passera,** C1:22-61; 'Association values' of applicant are the results of the 'output

nodes' of Passera.), wherein: the first data set represents customers. (**Passera,** C1:22-

61; 'First data set represents customers' of applicant is equivalent to 'data bases

containing records of millions of customers' of Passera.)

Passera does not teach the second data set represents products.

Cragun teaches the second data set represents products. (**Cragun,** C3:23-35; 'Second data set represents products' of applicant is equivalent to 'product database' of Cragun.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Passera by having a second data set of products as taught by Cragun to have the second data set represents products.

For the purpose of using both data sets to find correlations between customers and products for target marketing and increased profit.

Passera teaches the association values represent an association between customers of the first data set and products of the second data set and is indicative of revenue associated with the customers and the products (**Passera,** C1:22-61; 'Association values' which are indicative of 'revenue' of applicant is illustrated by ' ... looking for data patterns indicating which of those customers are sufficiently likely to buy a given product ...' of Passera.); (B) a data processing system having a processor operable to: (i) modify a segmentation of each of the first and second data sets to produce first and second modified data sets having different groups than the first and second data sets (**Passera,** C1:22-61; The modification of the first and second data sets which are different than the original data sets occurs at the hidden layer network which is comprised by hidden layer nodes of Passera.); (ii) calculate group association values based on the association values, the group association values indicating an association between groups of the first modified data set and groups of the second

modified data set (**Passera,** C6:21-29; The calculation of the 'group association values'

of applicant is equivalent to the output of the 'output node' of the 'non-terminal node' of

Passera.); (iii) calculate a metric based on the group association values, the metric

representing a measure of an optimization of the segmentations (**Passera,** C7:51-65;

'Calculating a metric based on the group association values' of applicant is the

comparison between the 'generated value produced at the output node' to the 'values

supplied to the inputs' of Passera. 'Metric' of applicant is equivalent to 'weight' of

Passera.); (iv) modify the segmentation of at least one of the first and second data sets

and recalculating group association values and the metric (**Passera,** C7:51-65; 'Modify

the segmentation' of applicant is equivalent to 'modifies the weights' of Passera.); (v)

satisfy an optimization criteria by repeating (B)(iv) until the metric reaches a desired

value (**Passera,** C7:65 through C8:4; 'Satisfy an optimization' of applicant is disclosed

by 'training values for the output drops below a given level' of Passera.); and (vi) output

the segmentation for the first and second data sets. (**Passera,** C7:51-65; 'Outputting the

segmentation' of applicant is equivalent to 'network's output' of Passera.)

Passera does not teach (C) a computer display for outputting the segmentation,

wherein outputting the segmentation includes displaying a representation of the group

association values on the computer display.

Cragun teaches (C) a computer display for outputting the segmentation, wherein

outputting the segmentation includes displaying a representation of the group

association values on the computer display. (**Cragun,** C4:26-36; 'Computer display' of

applicant is equivalent to 'display screen' of Cragun.) It would have been obvious to a

person having ordinary skill in the art at the time of applicant's invention to modify the

teachings of Passera by outputting the results as taught by Cragun to have a computer

display for outputting the segmentation, wherein outputting the segmentation includes

displaying a representation of the group association values on the computer display.

For the purpose of seeing the results of associated values and employing them

for revenue.

Claim 138

Passera teaches wherein the first and second data sets are categorical data

sets. (**Passera,** C3:18-29; 'Categorical data sets' of applicant is equivalent to 'M sub

spaces' of Passera.)

Claim 143

Passera teaches wherein the association values represent profit. (**Passera,**

C1:22-61; 'Profit' of applicant is represented by 'marketing' of Passera.)

Claim 144

Passera does not teach wherein outputting the segmentation includes displaying

a representation of the group association values.

Cragun teaches wherein outputting the segmentation includes displaying a

representation of the group association values. (**Cragun,** C2:54-64; 'Outputting' of

applicant is equivalent to 'display' of Cragun.) It would have been obvious to a person

having ordinary skill in the art at the time of applicant's invention to modify the teachings

of Passera by outputting group association values as taught by Cragun to have wherein

outputting the segmentation includes displaying a representation of the group

association values.

For the purpose of determining if a profit can be made by indication of group

association values.

Claim 145

Passera teaches (B)(i) comprises aggregating and the number of groups of the

first modified data set is less than the number of groups of the first data set. (**Passera,**

C3:18-29; Passera discloses dividing the data space into M sub spaces where M is

greater than or equal to P (processors). Mapping Passera to the application, 'number of

groups' of applicant is equivalent to P of Passera. 'First data set' of applicant is

equivalent to data space of Passera.)

Claim 146

Passera teaches wherein (B)(i) comprises refining and the number of groups of

the first modified data set is greater than the number of groups of the first data set.

(**Passera,** C3:43-50; 'Number of groups of the first modified data set is greater ...' is

accomplished by having a number of 'leaf nodes' being determined by a product of an

integer to the number of P processors of Passera.)

Claim 147

Passera teaches wherein (B)(i) comprises both aggregating and refining.
(**Passera,** C3:18-29 and 3:43-50; see claims 145 and 146)

Claim 148

Passera teaches wherein the value of the metric is optimal with respect to a set
of admissible functions of the first and second modified data sets. (**Passera,** C7:51-65;
The value of the weight or metric is modified to produce optimal results according to
training data compared to desired results.)

Claim 149

Passera teaches wherein (B)(iv) comprises determining whether any of the first
and second modified data sets has converged. (**Passera,** C7:66 through C8:4;
Convergence of applicant is illustrated by the difference between the generated and
record values for the output.)

Claim 150

Passera teaches wherein (B)(iv) comprises determining whether a matrix defined
by a cross-space of the first and second modified data sets has converged. (**Passera,**
abstract, 'Matrix defined by a cross space' of applicant is equivalent to a 'neural
network' of Passera.)

Claim 151

Passera teaches wherein (B)(iv) comprises determining whether a function of a

matrix defined by a cross-space of the first and second modified data sets has

converged. (**Passera,** C7:66 through C8:4; Convergence of applicant is illustrated by

the difference between the generated and record values for the output.)


Claim 152

Passera teaches wherein (B)(iv) further comprises determining whether an

overall association value corresponding to an association between the first and second

modified data sets has converged. (**Passera,** C1:22-61; 'Association values' of

applicant is illustrated by ' ... looking for data patterns indicating which of those

customers are sufficiently likely to buy a given product ...' of Passera. If convergence

has occurred, then there exists a connection between a customer and a product.)


Claim 153

Passera teaches wherein (B)(iv) comprises determining whether a permutation

signifying an ordering of any of the first and second modified data sets has converged.

(**Passera,** abstract, C1:22-61, C7:51 through C8:4; Per the specification in ¶0018,

convergence of both P1 and P2 occur when solving a linear program. Neural networks

are equivalent to linear programming based on summation of input vector values and

multiplication by weights. Convergence manifests itself in a neural network by an output of an output node.)

Claim 154

Passera teaches wherein a matrix defined by a cross- space of the first and second data sets is populated with live data such that the matrix is dynamic. (**Passera,** C1:22-61; 'Live data' or 'dynamic' of applicant is data other than training data, or data which can be used by the invention to determine convergence of products to customers. Passera discloses the use to find 'potential customers' which illustrates the use of 'live data' or a 'dynamic' matrix.)

Claim 155

Passera teaches wherein (B)(iii) comprises calculating a value of a metric taken on a matrix, wherein the matrix defined by a cross-space formed by the first and second modified data sets and, wherein the metric is a linear arithmetic operation on a plurality of elements of the matrix. (**Passera,** abstract, C1:22-61, C7:51 through C8:4; Per the specification in ¶0018, convergence of both P1 and P2 occur when solving a linear program. 'Metric' of applicant is equivalent to 'weight' of Passera. Neural networks are equivalent to linear programming based on summation of input vector values and multiplication by weights. Convergence manifests itself in a neural network by an output of an output node.)

Claim 158

Passera teaches (A) inputting the first and second data sets and association

values representing an association between one or more elements of the first data set

and one or more elements of the second data set (**Passera,** C1:22-61; 'Inputting the

first and second data sets" of applicant occurs at the 'input nodes' of Passera.),

wherein: the first data set represents customers. (**Passera,** C1:22-61; 'First data set

represents customers' of applicant is equivalent to 'data bases containing records of

millions of customers' of Passera.)

Passera does not teach the second data set represents products.

Cragun teaches the second data set represents products. (**Cragun,** C3:23-35;

'Second data set represents products' of applicant is equivalent to 'product database' of

Cragun.) It would have been obvious to a person having ordinary skill in the art at the

time of applicant's invention to modify the teachings of Passera by having a second

database of products as taught by Cragun to have the second data set represents

products.

For the purpose of determining a relationship between customers and products.

Passera teaches the association values represent an association between

customers of the first data set and products of the second data set and is indicative of

revenue associated with the customers and the products (**Passera,** C1:22-61;

'Association values' which are indicative of 'revenue' of applicant is illustrated by ' ...

looking for data patterns indicating which of those customers are sufficiently likely to buy

a given product ...' of Passera.); (B) modifying a segmentation of each of the first and

second data sets to produce first and second modified data sets having different groups

than the first and second data sets (**Passera,** C1:22-61; The modification of the first and

second data sets which are different than the original data sets occurs at the hidden

layer network which is comprised by hidden layer nodes of Passera.); (C) calculating

group association values based on the association values, the group association values

indicating an association between groups of the first modified data set and groups of the

second modified data set (**Passera,** C6:21-29; The calculation of the 'group association

values' of applicant is equivalent to the output of the 'output node' of the 'non-terminal

node' of Passera.); (D) calculating a metric based on the group association values, the

metric representing a measure of an optimization of the segmentations (**Passera,**

C7:51-65; 'Calculating a metric based on the group association values' of applicant is

the comparison between the 'generated value produced at the output node' to the

'values supplied to the inputs' of Passera. 'Metric' of applicant is equivalent to 'weight' of

Passera.); (E) iteratively modifying the segmentation of at least one of the first and

second data sets and recalculating group association values (**Passera,** C7:51-65;

'Modifying the segmentation' of applicant is equivalent to 'modifies the weights' of

Passera.) and the metric until the metric represents an optimization level that equals or

exceeds the desired level of optimization. (**Passera,** C7:65 through C8:4; 'Satisfy an

optimization' of applicant is disclosed by 'training values for the output drops below a

given level' of Passera.)

         Passera does not teach (F) outputting the segmentation for the first and second

data sets.

Cragun teaches (F) outputting the segmentation for the first and second data

sets. (**Cragun,** C4:26-36; 'Outputting the segmentation' of applicant is accomplished by

a 'display screen' of Cragun.) It would have been obvious to a person having ordinary

skill in the art at the time of applicant's invention to modify the teachings of Passera by

displaying the first and second data segmentation sets as taught by Cragun to output

the segmentation for the first and second data sets.

For the purpose of seeing the results of associated values and employing them

for revenue.

Passera teaches (G) offering products to customers based upon the outputted

segmentation. (**Passera,** C1:22-61; 'Offering products to customers' of applicant is

equivalent to 'direct marketing campaign' of Passera.)


Claim 159

Passera teaches wherein the first and second data sets are input into a computer

for processing according to steps (B), (C), (D) and (E), steps (B), (C), (D) and (E) being

implemented in software on the computer. (**Passera,** C3:18-29; 'Data sets are input into

a computer' of applicant is equivalent to 'a computer system with P processors receives

data objects having N parameters' of Passera.)


Claim160

Cragun teaches wherein outputting the segmentation includes displaying a

representation of the group association values on a computer display. (**Cragun,** C4:26-

36; 'Computer display' of applicant is equivalent to 'display screen' of Cragun.) It would

have been obvious to a person having ordinary skill in the art at the time of applicant's

invention to modify the teachings of Passera by displaying results as taught by Cragun

to output the segmentation includes displaying a representation of the group association

values on a computer display.

For the purpose of using the group association values to aid in revenue

generation decisions.

## *Response to Arguments*

5.      Applicant's arguments filed on January 16, 2002for claims 137-138, 143-155,

158-160 have been fully considered but are not persuasive.

6.      In reference to the Applicant's argument:

REMARKS

Status of the Claims
Claims 137-157 are pending in the present application, and in the outstanding office
action, all of the claims stand rejected as directed to non-statutory subject matter. By
this amendment, Applicant amends claims 137 (to include the recitations of claims 139
to 142 and 156) and 143 (to correct a dependency) and cancels claims 139 to 142 and
156. New claims 158 to 160 correspond substantially to previously pending claims 115-
120, and claims 134 and 135, with the additional step of offering products to customers.
This additional step is described in the specification at pages 17-18 and 30-34. Upon

entry of this amendment, claims 137-138, 143-155, and 158-160 will be pending with claims 137 and 158 being independent.

Rejection of Claims 137-157 Under 35 U.S.C. 101

The Examiner states that claims 137-157 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

Specifically, in the rejection the Examiner states that:

The computer system must set forth a practical application of that § i01 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application. A system for determining segmentation of data sets, in which each data set has given characteristics. In addition, the existence of data input means to put data into data sets. And, being able to modify the segmentation of the data sets based of various methods has no practical application. The result has to be a practical application. Please see the interim guidelines for examination of patent applications for patent subject matter eligibility published November 22, 2005 in the official gazette.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." If the claim is directed to a practical application of the § i01 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § i01. Some claims attempt to reach a practical application by stating the datasets represents customers or products. There exist claims, which represent an association between customers and products, revenue or profit. But there is no real world function or practical application for the invention.

The invention must be for a practical application and either:
1)specify transforming (physical thing) or
2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible),concrete (substantially repeatable/ non- unpredictable), AND tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended, and if the specification discloses a practical application but the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended.

Claims that recite the existence and modification of general abstract data sets without a

practical application are not statutory. There must be a result that is a practical application.

Response to Applicant's Arguments

In response to Applicant's prior arguments, the Examiner states:

Applicant's arguments with respect to claims 137-157 have been considered but are moot in view of the new language of rejection.

Applicant notes with concern that this "new language" is the fourth provision of 'new language' in making a section 101 rejection in this case. After copying Applicant's previous response into the office action, the Examiner states:

Examiner's response:
The 35 U.S.C. 101 rejection stands. There is not a single stated purpose, real world function or practical application which the invention fulfills. Simply having an algorithm for the generation of data sets with each data set further segmented into elements has no stated practical purpose. The applicant cites numerous decisions, which suggests support for the applicant's argument. One example is 'State St. Bank & Trust Co. v. Signature Financial Group, Inc.' In response to this argument, it is not clear why the appellant cites cases such as State Street Bank when the appellant is clearly distinguishing the real world application of dollar amounts and final share prices of State Street from how the appellant's specification discloses the claimed invention of generating data sets with each set having elements in which no real world application or practical application has been stated. The modification of the data sets provides no real world practical application. They are only data sets which differ from the original data sets. The calculation of 'group associated values' has no stated practical application. They are only values. The generation of a "metric' which is an 'optimization of the segmentations' has no practical application. The iteration of recalculation of "group association values' and 'metrics' after segmentation until an optimization criteria has been reached are values only with no practical application. This invention is a numeric exercise only without a real world function or practical application. The invention must have a practical application.

It is clear from the Examiner's rejection that the Examiner has not read the application or the claims. The rejection relates only to independent claim 137 read in a vacuum without reference to the specification or the dependent claims, all of which expressly contradict the Examiner's state bases for rejecting.

For example, the Examiner states that "it is not clear why the appellant [sic] cites cases such as State Street Bank when the appellant [sic] is clearly distinguishing the real world application of dollar amounts and final share prices of State street from how the

appellant's [sic] specification discloses the claimed invention of generating data sets with each set having elements in which no real world application or practical application has been stated." These statements are flatly wrong as a matter of fact.

Claim 139 (now amended into independent claim 137) recites that one of the data sets represents customers. Claim 140 (now amended into independent claim 137) recites that one of the data sets represents products. Claim 141 (now amended into independent claim 137) recites that the association values represent an association between the customers and products in the two data sets. Claim 142 (now amended into independent claim 137) recites that the association value that represents an association between the customers and the products represents revenue. Thus, when the system of the claims displays the association values to a user of the system - it is presenting dollar values exactly like State Street. Applicant has further amended claim 137 to include the recitation of claim 156 that a display is provided to present these dollar values to the user.

Examiner's response:

The specification mentions that there exists in one embodiment of the invention a 'customer data set' and a 'product data set.' The applicant's argument continues that 'association value that represents an association between the customers and the products represents revenue.' The word 'revenue' is not mentioned at all within the specification therefore the applicant's argument 'association value that represents an association between the customers and the products represents revenue' is not supported by the specification. Likewise, the applicant's argument does not parallel the 'State Street Bank' situation. Office Action stands.

7.    In reference to the Applicant's argument:

Practical applications for this technology are numerous, and the system of claim 137 now expressly recites one specific exemplary practical application - associating customers with products according to revenue. Contrary to the Examiner's assertions, this practical application is described in the specification at pages 17 to 18 and 30 to 34. In claim 137, the first and second data sets represent customers and products, and the association value represent revenues. In this embodiment, raw transaction data (a customer, the products purchased by the customer, and money paid by the customer for the products) is input, and an optimized segmentation of customer and product groupings is output and displayed to a user, presumably a marketing professional. Segmenting customers and products into groups based upon the optimization of revenue and/or profit is a practical application that marketing professionals would readily understand. In fact, the Examiner has already noted that "marketing products" is a "useful area." (See, December 8, 2005 Office Action at page 3.)

Examiner's response:

Within this passage of the applicant arguments and the specification ¶0179

through ¶0184 the applicant admits preemption. The specification can not contain uses

which are known and unknown. The specification can not describe implementation of

the invention which are not described within the specification. Office Action stands.

8.    In reference to the Applicant's argument:

Section 2106 of the Manual of Patent Examining Procedure provides:

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

MPEP 2106(IV)(C)(2)((2)) further states:

...USPTO personnel shall review the claim to determine it produces a useful, tangible, and concrete result. In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is "useful, tangible, and concrete."

The present rejection, in which the Examiner ignores the tangible results provided, fails this test. Following the guidelines enumerated in this section of the MPEP, the result is concrete as it is predictable and repeatable (MPEP 2106(IV)(C)(2)((2))(c)). Each time the claimed invention is used, it will produce customer and product data sets that are ordered into an optimized segmentation according to revenue generation and output that segmentation to display for a marketing professional. The result is tangible as it is a real world result (MPEP 2106(IV)(C)(2)((2))(b)). The result is also useful in that the outputs are specific, substantial, and credible (MPEP 2106(IV)(C)(2)((2))(a)).

New method claims 158-160, which are substantially similar to previous method claims 115 et seq. with the addition of a step of offering products to customers, are likewise patentable. Applicant expressly requests that the Examiner review dependent claims 159 and 160 and not simply reject independent claim 158 without considering the subject matter of the dependent claims as has been done in previous office actions.

Examiner's response:

The applicant admits preemption within the arguments and specification. In addition the specification is silent regarding 'revenue generation.' The 'marketing professional' is also not mentioned within the specification. The applicant is making arguments which are not supported by the specification. Office Action stands.

***Examination Considerations***

9. The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The

Examiner has the full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in

meaning.


10. Examiner's Notes are provided to assist the applicant to better understand the

nature of the prior art, application of such prior art and, as appropriate, to further

indicate other prior art that maybe applied in other office actions. Such comments are

entirely consistent with the intent and sprit of compact prosecution. However, and

unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that

one of ordinary skill in the art would find inherently appropriate.


11. Examiner's Opinion: Paragraphs 9 and 10 apply. The Examiner has full latitude

to interpret each claim in the broadest reasonable sense.

## Conclusion

12. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-U. S. Patent 6078892: Anderson

-U. S. Patent 6073112: Geerlings

-U. S. Patent 6055513: Katz

-U. S. Patent 6026397: Sheppard

-U. S. Patent 5933818: Kasravi

-U. S. Patent 5615109: Eder

-A group-based inference approach to customized marketing on the Web integrating clustering and association rules techniques: Hsiangchu Lai

-Modelling relationships between international equity markets using computational intelligence: Burgess, A.N

-Targeted e-commerce marketing using fuzzy intelligent agents: Yager, R.R.

-A primer for understanding and applying data mining: Thuraisingham, B.

-Data mining: Olaru, C.

-Parallelism speeds data mining: Reese Hedberg, S.

13.    Claims 137-138, 143-155, 158-160 are rejected.

*Correspondence Information*

14.    Any inquiry concerning this information or related to the subject disclosure should

be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-

5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45

p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor David Vincent can be reached at (571) 272-3080. Any response to this

office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 272-3150 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

unpublished applications is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions

on access to Private PAIR system, contact the Electronic Business Center (EBC) at

866-217-9197 (toll free).

Peter Coughlan

11/20/2007

DAVID VINCENT
SUPERVISORY PATENT EXAMINER